

REMARKS

The Examiner's comments together with the cited references have been carefully studied. Favorable reconsideration in view of the foregoing amendments and following remarks is respectfully requested.

Claim 19 has been amended to incorporate the limitations of dependent claim 22, which dependent claim has accordingly been cancelled.

Claims 19, 21-26, and 40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Morita et al. (US 5,405,887). The rejection is respectfully traversed.

According to the Examiner, with respect to Claims 19 and 40, Morita teaches a method of making a porous film by adding from 40-250 parts finely-powdered filler to 100 parts polylactic acid-based resin composition and melting, where the blend is melt-extruded through a flat die to form an extrudate, and teaches "stretching biaxially from 1.1 to 10 times" (Examiner references col. 7, lines 28-32), and that such range would necessarily cause the area ratio between the non-stretched sheet and the biaxially stretched film to be in the range of 1.2 to 100. Contrary to such assertion with respect to such a broad ranges for biaxial stretching, such referenced passage states stretching the extrudate from 1.1 to 10 times, preferably 1.1 to 7 times at least in the direction of the axis. While Morita does subsequently state stretching can be carried out in multisteps or conducted biaxially, this does not disclose any actual biaxial stretching range of from 1.2 to 100. To the contrary, to the extent Morita teaches that the extrudate is stretched from 1.1 to 10 times, and that the degree of stretching exceeding 10 times often leads to unfavorable breakage of the film, it rather appears that such 10 times limit applies to the total stretching, not stretching in each direction.

As is further noted by the Examiner, Morita does disclose in Example 3 stretching 3 times in one direction and 3 times in another direction. This is consistent with the total stretching being up to 10. The Examiner asserts that the biaxial drawing ratio of Claim 19 of greater than 3 times and not more than 5 times and the biaxial drawing ratio of Claim 40 of greater than 3.3 times and not more than 5 times are obvious over Morita because the claimed ranges "lie inside ranges"

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disclosed by the prior art (referencing MPEP § 2144.05(1)). The Examiner further alleges that biaxial drawing ratios of Claim 19 and 40 are obvious because their lower range of greater than 3 and 3.3, respectively, and Morita's disclosed teaching of stretching 3 times in one direction and 3 times in another direction are "close enough", and that the area ratios of Claim 19 and 40 are obvious because their lower range of greater than 10 and 11, respectively, are also "close enough" that one skilled in the art would have expected them to have the same properties (see MPEP § 2144.05(1)). The Examiner further alleges that the sheet would necessarily be microvoided and have a total adsorbent capacity of at least about 14 cc/m² principally because its process is the same process as claimed.

As explained above, however, Morita does not disclose two individual biaxial stretching ranges, but rather only a total stretching limit and a uniaxial stretching preference in the direction of the axis, along with a separate statement that stretching may be biaxial, and a single biaxial stretching example that lies outside the presently claimed requirements. The Examiner's arguments that the claimed ranges "lie inside ranges" disclosed by the prior art are thus not supported. The Examiner's arguments further fail to consider all the requirements of the present claims in combination, in view of the disparate teachings of Morita which would appear to teach against such claimed invention. In particular, while the present claimed invention requires a total stretching such that the area ration between the non-stretched sheet and the biaxially stretched film is greater than 10, Morita teaches that a degree of stretching exceeding 10 times often leads to breakage of the film, and does not teach any examples having a total degree of stretching greater than 10. While the present claimed invention is directed specifically towards the use of void initiating particles of a relatively small average diameter of 0.1 to 1.0 micrometers, Morita allows for substantially larger size particles. While the present claimed invention is directed towards a method of making a permeable microvoided sheet with interconnected microvoids with a relatively high total absorbent capacity of at least about 14 cc/m², Morita is directed towards porous moisture permeable film for leakproof film applications. Given the actual teachings of Morita, it would not have been obvious to employ particles of the specified size and concentration in a film

stretched to the required extent of the present invention to provide a high total absorbent capacity film in view of the disparate actual teachings of the reference.

Thus, it is clear that Morita et al. do not disclose, teach, or suggest stretching the claimed sheet biaxially, in which both draw ratios in the longitudinal and transverse directions are greater than 3 times and not more than 5 times (or at least 3.3 times according to claim 40), and the area ratio between the non-stretched sheet and the biaxially stretched film is greater than 10 times (or at least 11 times according to claim 40) and not more than 20 times, while employing void initiating particles having an average diameter in the range of 0.1 to 1.0 micrometers and a loading of 30-30 % by volume in the feedstock, to form interconnected microvoids around the inorganic particles, thereby obtaining a permeable microvoided sheet that is a monolayer film of polylactic-acid-based material having a total absorbent capacity of at least about 14 cc/m².

Applicants have found that a film having the claimed total absorbent capacity of at least about 14 cc/m² requires relatively high biaxial stretching at relatively high loadings of void initiators. The Examples of Morita et al. fail to meet the limitations of the present claims, and the further disclosure and teachings of Morita would not direct one to modify such examples to employ even greater stretching in view of the teaching away from such higher level at col. 7, lines 33-34 thereof. It is believed that one reason for this difference is that Morita et al. is directed to a leakproof material that can be used in diapers and the like, whereas the present invention is directed to a material that can be used in inkjet printing that is rapidly permeable to liquid inks. The Examiner's mere selection of specific possibilities from various broad ranges of individual teachings found in Morita et al. does not establish a prima facie case of obviousness, but rather is based on hindsight construction based on Applicants' own disclosure. The Examiner has failed to establish obviousness of combining all of the claimed requirements of the present invention based on Morita et al., in view of the teaching away from employing relatively higher degree of stretching in Morita.

Claims 29 and 30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Morita et al. as applied to Claim 19 above, and further in view of

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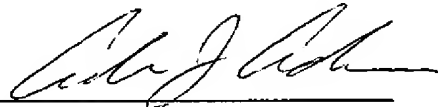
Kanai et al. (*Film Processing*, pages 322 and 323). The rejection is traversed, as while Kanai et al. teach embodiments of simultaneous biaxial stretching of film as well as sequential machine and transverse directional stretching, it does overcome the basic deficiencies of the Morita reference relative to the present claims as it does not teach such biaxial stretching to create a microvoided film in accordance with the present claimed invention.

In the "Response to Arguments", the Examiner relies on Morita to teach that interconnected microvoids are formed around the inorganic particles and an absorbent capacity of 14 cc/m² "because Morita teaches all the claimed steps for achieving the claimed results of microvoiding and absorbent capacity." As explained above, however, Morita et al. does not teach the specific claimed combination of requirements, and specifically teaches against a total degree of stretching exceeding 10 time. While Morita's product may be microvoided and moisture permeable, it is not taught as being highly absorbent but rather leak proof. While the Examiner recognizes that all of the claimed effects and physical properties are not positively stated by the reference(s), the Examiner's subsequent statement that the references "teach all of the claimed ingredients, process steps and process conditions and thus, the claimed effects and physical properties would necessarily be achieved by carrying out the disclosed process" is clearly not supported, as there is no actual teaching of the specific claimed combination of requirements such that the claimed effects and physical properties would necessarily be achieved. To the contrary, as explained above, Morita in fact teaches against higher total degree of stretching than that employed in the highest stretched film of Example 3 thereof. While the Examiner states that he relies on Morita for all that it teaches rather than individual examples and relies on Morita's teaching of making a product that is permeable and able to absorb moisture (see col. 1, lines 18-27), such arguments neglects to consider that included in "all that Morita teaches" is a teaching against a relatively high total degree of stretching as required in the present claims, and further mischaracterizes the actual reference at col. 1, lines 18-27 which is to moisture permeability, rather than any high absorbent requirement.

In view of the foregoing remarks and amendment, the claims are now deemed allowable and such favorable action is courteously solicited.

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.

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